40. (New) An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is complementary to a sequence which encodes an ecdysteroid receptor (EcR) polypeptide or a bioactive derivative or analogue thereof, wherein said polypeptide or bioactive derivative or analogue thereof binds ecdysone and wherein said polypeptide is selected from the group consisting of an EcR polypeptide of a steroid receptor, said polypeptide consisting of an amino acid sequence having at least 60% amino acid sequence identity to the amino acid sequence set forth in SEQ ID NO:10, or an amino acid sequence encoded by a cDNA present in the plasmid deposited under AGAL Accession No. NM99/04567, wherein said encoded EcR polypeptide is not a *Drosophila melanogaster* EcR polypeptide.

41. (New) The isolated nucleic acid molecule according to claim 40, wherein the ecdysteroid receptor is an insect ecdysone receptor.

42. (New) The isolated nucleic acid molecule according to claim 41, wherein the insect is selected from the group consisting of dipteran, hemipteran, coleopteran, lepidopteran, and neuropteran insects and ants.

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43. (New) The isolated nucleic acid molecule according to claim 42, wherein the insect is a hemipteran insect.

44. (New) The isolated nucleic acid molecule according to claim 43, wherein the hemipteran insect is a member of the genus Myzus.

45. (New) The isolated nucleic acid molecule according to claim 44, wherein the insect is *Myzus persicae*.

46. (New) The isolated nucleic acid molecule according to claim 45, wherein the encoded EcR polypeptide consists essentially of the amino acid sequence set forth in SEQ ID NO:10.

47. (New) The isolated nucleic acid molecule according to claim 46, wherein the isolated nucleic acid molecule further encodes insect steroid receptor an EcR partner protein (USP polypeptide) of the *M. persicae* EcR, which USP polypeptide consists essentially of an amino acid sequence as set forth in SEQ ID NO:12.

48. (New) The isolated nucleic acid molecule of claim 47 wherein the USP polypeptide is identical to that encoded by the cDNA present in plasmid pMpUSP (AAAL Accession No. NM99/04568).

49. (New) The isolated nucleic acid molecule according to claim 42, wherein the insect is a dipteran insect.

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50. (New) The isolated nucleic acid molecule according to claim 49, wherein the insect is a member of the genus Lucilia.

51. (New) The isolated nucleic acid molecule according to claim 50, wherein the dipteran insect is *L. cuprina*.

52. (New) The isolated nucleic acid molecule according to claim 40, wherein the insect EcR polypeptide is an EcR polypeptide of the *L. cuprina* ecdysone receptor having the amino acid sequence set forth in SEQ ID NO:2 or encoded by the cDNA present in plasmid pLcEcR (AGAL Accession No. NM99/04566) or a bioactive analogue or derivative thereof, wherein said bioactive analog or derivative binds ecdysone.

53. (New) The isolated nucleic acid molecule according to claim 52, wherein the insect steroid receptor polypeptide comprises an EcR partner protein (USP polypeptide) of the *L. cuprina* ecdysone receptor or a USP polypeptide of the *L. cuprina* juvenile hormone receptor having the amino acid sequence set forth in SEQ ID NO:4 or SEQ ID NO:14 or encoded by the cDNA present in plasmid pLcUSP (AGAL Accession No. NM99/04565).

54. (New) The isolated nucleic acid molecule according to claim 40, wherein the bioactive derivative or analogue comprises a fragment of an EcR polypeptide, wherein said fragment includes at least one ecdysone-binding region of said EcR polypeptide or said EcR partner protein (USP polypeptide) and wherein said fragment binds ecdysone.

55. (New) The isolated nucleic acid molecule according to claim 54, wherein the ligand-binding region comprises a linker domain of the EcR polypeptide or a linker domain of the EcR partner protein (USP polypeptide).

56. (New) The isolated nucleic acid molecule according to claim 54, wherein the ecdysone-binding region comprises a hormone-binding domain of the EcR polypeptide or a hormone-binding domain of the EcR partner protein (USP polypeptide).

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57. (New) The isolated nucleic acid molecule according to claim 54, wherein the ligand-binding region comprises a linker domain and hormone-binding domain of the EcR polypeptide or a linker domain and hormone-binding domain of the EcR partner protein (USP polypeptide).

58. (New) The isolated nucleic acid molecule according to claim 40, comprising a protein-encoding nucleotide sequence which is at least 60% identical to the nucleotide sequence set forth in SEQ ID NO:5, SEQ ID NO:9, or SEQ ID NO:13 or a complementary

nucleotide sequence thereto or the cDNA present in the plasmid deposited under AGAL Accession No. NM99/04567.

59. (New) An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is complementary to a sequence which encodes a ecdysteroid receptor (EcR) polypeptide or a bioactive derivative or analogue thereof, wherein said ecdysteroid receptor polypeptide is not from *Drosophila melanogaster* and wherein said EcR polypeptide binds ecdysone, and wherein said nucleotide sequence is selected from the group consisting of:

(i) a nucleotide sequence having at least 60% identity to the nucleotide sequence set forth in SEQ ID NO:9, or a complementary nucleotide sequence thereto;

(ii) a nucleotide sequence that is capable of hybridising under at least low stringency conditions to the nucleotide sequence set forth in SEQ ID NO:9 or to a complementary nucleotide sequence thereto, wherein low stringency conditions are a hybridisation and/or a wash carried out in 6xSSC buffer, 0.1% (w/v) SDS at 28°C;

(iii) a nucleotide sequence having at least 60% identity to a nucleotide sequence of a cDNA present in the plasmid deposited under AGAL Accession No. NM99/04567;

(iv) a nucleotide sequence that is capable of hybridising under at least low stringency conditions to a cDNA present in the plasmid deposited under AGAL Accession No. NM99/04567;and

(v) a nucleotide sequence that is amplifiable by PCR using a nucleic acid primer sequence set forth in any one of SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19 or SEQ ID NO:20.

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60. (New) An isolated nucleic acid molecule which encodes an insect EcR polypeptide and comprises the nucleotide sequence set forth in SEQ ID NO:1 or a complementary

nucleotide sequence thereto or the nucleotide sequence of the cDNA present in plasmid pLcEcR (AGAL Accession No. NM99/04566).

61. (New) An isolated nucleic acid molecule which encodes an insect steroid receptor polypeptide and comprises the nucleotide sequence set forth in SEQ ID NO:5 or SEQ ID NO:7 or SEQ ID NO:8 or SEQ ID NO:9 or a complementary nucleotide sequence thereto or the nucleotide sequence of the cDNA present in plasmid pMpEcR (AGAL Accession No. NM99/04567).

62. (New) A method of identifying an isolated nucleic acid molecule which encodes an insect ecdysteroid receptor polypeptide, wherein said insect ecdysteroid receptor polypeptide is not from *Drosophila melanogaster*, comprising:

(i) hybridising under at least low stringency conditions, wherein low stringency conditions include a hybridisation and/or a wash carried out in 6xSSC buffer, 0.1% (w/v) SDS at 28°C, with one or more probes selected from the list comprising:

(a) probes comprising at least 20 contiguous nucleotides in length derived from any one of SEQ ID NO:1, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19 or SEQ ID NO:20 or a complementary nucleotide sequence thereto;

(b) probes comprising at least 20 contiguous nucleotides in length derived from a cDNA contained in the plasmid deposited under AGAL Accession No. NM99/04567; and

(c) hybridisation probes comprising the nucleotide sequences set forth in any one of SEQ ID NO:1, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 or SEQ ID NO:13 or a complementary nucleotide sequence thereto or a homologue, analogue or derivative thereof which is at least 60% identical to said sequence or complement; and

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(ii) detecting the hybridisation.

63. (New) The method of claim 62 wherein the step of detecting the hybridisation comprises detecting a reporter molecule that is covalently bound to the probe.

64. (New) A method of identifying an isolated nucleic acid molecule which encodes an insect ecdysteroid receptor (EcR) polypeptide comprising:

(i) annealing to genomic DNA, mRNA or cDNA, one or more PCR primers comprising at least 20 contiguous nucleotides in length derived from the group consisting of:

(a) a primer derived from any one of SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19 or SEQ ID NO:20 or a complementary nucleotide sequence thereto; and

(b) a primer derived from a cDNA contained in any one of the plasmids deposited under AGAL Accession No. NM99/04567; and

(ii) amplifying a nucleotide sequence which encodes a steroid receptor polypeptide in a polymerase chain reaction.

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65. (New) A method of identifying an isolated nucleic acid molecule which encodes an insect ecdysteroid receptor (EcR) polypeptide comprising:

(i) amplifying a nucleotide sequence which encodes an EcR polypeptide in a polymerase chain reaction using one or more PCR primers comprising at least 20 contiguous nucleotides in length from the group consisting of:

(a) a primer derived from any one of SEQ ID NO:1, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19 or SEQ ID NO:20 or a complementary nucleotide sequence thereto; and

(b) a primer derived from a cDNA contained in the plasmid deposited under AGAL Accession No. NM99/04567;

(ii) hybridising the amplified nucleotide sequence to genomic DNA, mRNA or cDNA with one or more probes selected from the group consisting of:

(a) a probe comprising at least 20 contiguous nucleotides in length derived from any one of SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19 or SEQ ID NO:20 or a complementary nucleotide sequence thereto;

(b) a probe comprising at least 20 contiguous nucleotides in length derived from a cDNA contained in the plasmid deposited under AGAL Accession Nos. NM99/04567; and

(c) hybridisation probes comprising the nucleotide sequences set forth in any one of SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, or SEQ ID NO:13 or a complementary nucleotide sequence thereto or a homologue, analogue or derivative thereof which is at least 60% identical to said sequence or complement; and

(iii) detecting the hybridisation.

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66. (New) The method of claim 65 wherein the step of detecting the hybridisation comprises detecting a reporter molecule that is covalently bound to the probe.

67. (New) The method according to claim 62, further comprising the step of isolating the identified nucleic acid molecule.

68. (New) A genetic construct comprising the isolated nucleic acid molecule according to claim 40 operably linked to a promoter sequence.

69. (New) The genetic construct according to claim 68, wherein the promoter is an SV40, MMTV, polyhedron or p10 promoter.

70. (New) A cell comprising the nucleic acid molecule according to claim 40.

71 (New) A cell comprising the genetic construct according to claim 68.

72. (New) The cell according to claim 71, wherein said cell further contains a nucleic acid molecule comprising a sequence encoding a ecdysteroid receptor partner polypeptide, said sequence operably linked to a promoter functional in said cell.

73. (New) A cell which expresses the EcR polypeptide encoded by the genetic construct according to claim 71.

74. (New) The cell according to claim 73, wherein said cell further expresses an ecdysteroid receptor partner protein which binds to said EcR polypeptide.

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75. (New) The method of claim 62, wherein the hybridisation conditions are at least medium stringency hybridisation conditions, wherein medium stringency conditions include a hybridisation and/or a wash carried out in 0.2xSSC-2xSSC buffer, 0.1% (w/v) SDS at 42°C to 65°C.

76. (New) The method of claim 75, wherein the hybridisation conditions are at least high stringency conditions, wherein high stringency hybridisation conditions include a hybridisation and/or a wash carried out in 0.1xSSC-0.2xSSC buffer, 0.1% (w/v) SDS at a temperature of at least 55°C.

77. (New) The isolated nucleic acid molecule of claim 59, wherein the hybridisation conditions are medium stringency, wherein said medium stringency hybridisation